ATTACHMENT - CLAIMS LISTING

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-14. (Canceled).

15. (Currently Amended) A method for controlling access to information scrambled at a broadcast center using a service key contained in a control word, said control word being encrypted by means of an operating key, said access control method comprising:

sending said scrambled information and periodic Entitlement Control Message (ECM) messages, to at least one descrambling terminal associated with an access control module provided with a security processor, said ECM messages containing access criteria and the cryptogram of the control word, said control word and said cryptogram of the control word being changed periodically, and

at each descrambling terminal, comparing said access criteria with at least one access right stored in memory in the access control module,

accessing to said scrambled information at each descrambling terminal being conditional upon a "true" value for said access criteria when compared with the at least one access right stored in the access control module, and accessing to said scrambled information comprising decrypting said cryptogram of said control word using said operating key in order to recover said control word and to descramble said scrambled information, wherein said method further comprises:

a) assigning a number to each ECM message, so that the numbers assigned to consecutive ECM messages form a monotonic non-decreasing function and

consecutive ECM messages with successive numbers represent a timebase formed by a plurality of individual time intervals for sending successive individual quanta of scrambled information;

b) detecting in each descrambling terminal the number of each ECM message, and then, in response to a user request from a user of said descrambling terminal for conditional controlled access to at least a portion of said scrambled information;

c) selecting the number of ~~an ECM message, corresponding to~~ a last processed ECM message at the sending time of said request, ~~and constituting~~ to constitute a time origin of said timebase; and

d) defining a time range by a first offset from said origin corresponding to the beginning of the time range, and a second offset corresponding to the end of the time range, the defined time range corresponding to a plurality of individual time intervals defining a plurality of successive individual quanta of scrambled information, and

e) communicating to the user authorization to access said scrambled information over the defined time range as a function of a specific access criterion.

16. (Previously Presented) The method according to claim 15, wherein said monotonic non-decreasing function is a continuously increasing function of the sending time of said ECM messages.

17. (Previously Presented) The method according to claim 15, wherein said monotonic non-decreasing function is an increasing step function of the sending time of said ECM messages.

18. (Previously Presented) The method according to claim 17, wherein each step is defined by a constant number over a plurality of sending times of said ECM messages, which defines a timebase with a resolution different from the sending time of said ECM messages.

19. (Previously Presented) The method according to claim 18, wherein each number is defined by a timestamp, each step being defined by the time range represented by two separate timestamps.

20. (Previously Presented) The method according to claim 15, wherein said specific access criterion corresponds to free access.

21. (Previously Presented) The method according to claim 15, wherein said time range is either an interval backwards from said origin, first offset ≤ 0 AND second offset ≤ 0, or an interval forwards from said origin, first offset ≥ 0 AND second offset ≥ 0, or a forward and backward interval, first offset ≤ 0 AND second offset ≥ 0.

22. (Previously Presented) The method according to claim 15, wherein, in order to manage the number of viewings at the request of the user in accordance with said

specific criterion in said time range and outside said time range, said method includes at least:

defining a maximum authorized number of viewings;

testing whether the number of viewings is less than or equal to said authorized maximum number of viewings; and,

in the event of a negative result of said test, refusing access to the scrambled information; else

testing whether said current number is in said time range; and,

in the event of said current number being in said time range; authorizing access to said scrambled information on the basis of the specific access criterion during said time range; else

authorizing access on the basis of a distinct access criterion other than specific access criterion and on condition that a Boolean variable representative of forward access authorization or of backward access authorization, respectively, presents a "true" value.

23. (Previously Presented) The method according to claim 22, further including:

defining a first Boolean variable whose "true" value is representative of authorization of forward access to said scrambled information beyond said time range, on the basis of an access criterion other than said specific access criterion; and

defining a second Boolean variable whose "true" value is representative of authorization of backward access to said scrambled information before said time range, on the basis of an access criterion other than said specific access criterion.

24. (Previously Presented) The method according to claim 22, wherein, if said current number is not in said time range, said authorization of access based on an access criterion other than specific access criterion and conditional upon the "true" value of said Boolean variables includes:

submitting said current number and said first Boolean variable to a first logical test to verify whether said current number is equal to or greater than said origin number and to verify whether said first Boolean value is "true" in order to authorize forward access to said scrambled information or to a second logical test to verify whether said current number is equal to or the less than said origin number and to verify whether the value of said second Boolean variable is "true" in order to authorize backward access to said scrambled information and, in the event of a positive result of either of the first or second logical tests:

authorizing forward access, or backward access, as appropriate, to said scrambled information with no incrementing of the number of viewings and, in the event of a negative result of both the first and second logical tests:

testing whether said number of viewings is less than the authorized maximum number of viewings; and

in the event of a negative result of said test, refusing access to the scrambled information and incrementing said number of viewings by 1, else

authorizing forward or backward access, as appropriate, to said scrambled information.

25. (Previously Presented) The method according to claim 24, wherein, for a specific access control corresponding to a basic rewind service for a recording and an authorized maximum number of viewings = 1, said time range is a backward range defined by first offset < 0 AND second offset = 0, the first Boolean variable is "true", forward access being authorized, and the backward second Boolean variable is the complement of the "true" value, backward access not being authorized.

26. (Previously Presented) The method according to claim 24, wherein, for a specific access control corresponding to a free access preview service, said time range is a forward range defined by first offset = 0 AND second offset > 0, the authorized maximum number of viewings is = 1, the first and the second Boolean variables are "false", recording and/or backward access not being authorized.

27. (Previously Presented) The method according to claim 24, wherein, for looped transmission of scrambled information, said authorized maximum number of viewings is set at a particular value, said time range for access to the scrambled information has a specific value, the first Boolean variable is "true" and the second Boolean value is "false".

28. (Currently Amended) A method for controlling access to information scrambled at a broadcast center using a service key contained in a control word, said control word being encrypted by means of an operating key, said access control method comprising:

sending said scrambled information and periodic Entitlement Control Message (ECM) messages, to at least one descrambling terminal associated with an access control module provided with a security processor, said ECM messages containing access criteria and the cryptogram of the control word, said control word and said cryptogram of the control word being changed periodically, and

at each descrambling terminal, comparing said access criteria with at least one access right stored in memory in the access control module,

accessing to said scrambled information at each descrambling terminal being conditional upon a "true" value for said access criteria when compared with the at least one access right stored in the access control module, and accessing to said scrambled information comprising decrypting said cryptogram of said control word using said operating key in order to recover said control word and to descramble said scrambled information, wherein said method further comprises:

a) assigning a number to each ECM message, so that the numbers assigned to consecutive ECM messages form a monotonic non-decreasing function and consecutive ECM messages with successive numbers represent a timebase formed by a plurality of individual time intervals for sending successive individual quanta of scrambled information;

b) detecting in each descrambling terminal the number of each ECM message, and then, in response to a user request from a user of said descrambling terminal for conditional controlled access to at least a portion of said scrambled information;

c) selecting the number of ~~an ECM message, corresponding to~~ a last processed ECM message at the sending time of said request, ~~and constituting~~ to constitute a time origin of said timebase; and

d) defining a time range by a first offset from said origin corresponding to the beginning of the time range, and a second offset corresponding to the end of the time range, the defined time range corresponding to a plurality of individual time intervals defining a plurality of successive individual quanta of scrambled information, and

e) communicating to the user authorization to access said scrambled information over the defined time range as a function of a specific access criterion

wherein, in order to manage the number of viewings at the request of the user in accordance with said specific criterion in said time range and outside said time range, said method includes at least:

defining a maximum authorized number of viewings;

testing whether the number of viewings is less than or equal to said authorized maximum number of viewings; and,

in the event of a negative result of said test, refusing access to the scrambled information; else

testing whether said current number is in said time range; and,

in the event of said current number being in said time range, authorizing access to said scrambled information on the basis of the specific access criterion during said time range; else

authorizing access on the basis of a distinct access criterion other than specific access criterion and on condition that a Boolean variable representative of forward access authorization or of backward access authorization, respectively, presents a "true" value;

wherein, if said current number is not in said time range, said authorization of access based on an access criterion other than specific access criterion and conditional upon the "true" value of said Boolean variables includes:

submitting said current number and said first Boolean variable to a first logical test to verify whether said current number is equal to or greater than said origin number and to verify whether said first Boolean value is "true" in order to authorize forward access to said scrambled information or to a second logical test to verify whether said current number is equal to or the less than said origin number and to verify whether the value of said second Boolean variable is "true" in order to authorize backward access to said scrambled information and, in the event of a positive result of either of the first or second logical tests;

authorizing forward access, or backward access, as appropriate, to said scrambled information with no incrementing of the number of viewings and, in the event of a negative result of both the first and second logical tests;

testing whether said number of viewings is less than the authorized maximum number of viewings; and

in the event of a negative result of said test, refusing access to the scrambled information and incrementing said number of viewings by 1; else

authorizing forward or backward access, as appropriate, to said scrambled information;

wherein, for a specific access control corresponding to a basic rewind service for a recording and an authorized maximum number of viewings = 1, said time range is a backward range defined by first offset < 0 AND second offset = 0, the first Boolean variable is "true", forward access being authorized, and the backward second Boolean variable is the complement of the "true" value, backward access not being authorized;

wherein, for a specific access control corresponding to a free access preview service, said time range is a forward range defined by first offset = 0 AND second offset > 0, the authorized maximum number of viewings is = 1, the first and the second Boolean variables are "false", recording and/or backward access not being authorized; and

wherein, for looped transmission of scrambled information, said authorized maximum number of viewings is set at a particular value, said time range for access to the scrambled information has a specific value, the first Boolean variable is "true" and the second Boolean value is "false."